

Amendment and Response

Applicant: Kenneth M. Adams et al.

Serial No.: 10/657,915

Filed: September 9, 2003

Docket No.: M190,145.101 / P-263.00 US

Title: SURGICAL MICRO-BURRING INSTRUMENT AND METHOD OF PERFORMING SINUS SURGERY

REMARKS

This is responsive to the Non-Final Office Action mailed January 30, 2007. In that Office Action, the Examiner acknowledged Applicant's previous election of claims 1-24 and withdrew claims 25-29 from further consideration. Additionally, claims 1, 9, 10, 13-17, 22, and 23 were rejected under 35 U.S.C. §102(b) as being anticipated by Adams, U.S. Patent No. 6,503,263 ("Adams '263"). Claims 2-8, 11, and 12 were rejected under 35 U.S.C. §103(a) as being unpatentable over Adams '263. Claims 18 and 19 were rejected under 35 U.S.C. §103(a) as being unpatentable over Adams '263 in view of Adams, U.S. Patent No. 6,312, 438 ("Adams '438"). Claim 24 was rejected under 35 U.S.C. as being unpatentable over Adams '263 in view of West, Jr., U.S. Patent No. 5,364,395 ("West").

With this Response, claims 7, 9, and 15 have been amended to be consistent with claim(s) for which they depend and for reasons un-related to patentability; claims 25-29 have been cancelled; and newly presented claims 30-34 added. Claims 1-24 and 30-34 remain pending in the application and are presented for reconsideration and allowance.

35 U.S.C. §§102, 103 Rejections

Claim 1 relates to a surgical micro-burring instrument including an outer tubular member and an inner tubular member. The outer tubular member forms a pocket and an elevator tip extending distal the pocket. The inner tubular member is rotatably received within the outer tubular member, and forms a bur positioned within the pocket. In the context of surgical micro-cutting, a "bur" is understood to reference a particular structure or tool, in particular a mass of material having a continuous perimeter. With this understanding in mind, it is respectfully submitted that Adams '263 does not teach or reasonably make obvious the inner tubular member forming a bur as set forth in claim 1. More particularly, Adams '263 describes a micro-shaving or resecting instrument, with the inner elongate member 22 forming a cutting tip 150. Commensurate with micro-resecting applications, the cutting tip 150 is not a bur; rather, the cutting tip 150 has a plurality of teeth or cutting edges designed to engage and resect or shave tissue. The cutting edges are specifically formed to remove delicate, soft tissue associated with

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an inferior turbinate reduction procedure. As described in the pending specification, the cutting tip of Adams '263 cannot be used for hard bone or cartilage removal (page 2, lines 14-24). In other words, micro-resecting is discrete from burring, and the cutting tip 150 of Adams '263 is not and cannot be a bur as otherwise set forth in claim 1. For at least these reasons, then, the rejection of claim 1, and claims 2-24 depending therefrom, should be withdrawn.

In addition to the above, reference is made to claims 10-14 in which features of the outer tubular member and the pocket formed thereby are recited and relate to unique constraints presented by bur-type surgical instruments. Unlike the resecting instrument of Adams '263, micro-burring instruments require that a significant circumferential surface of the bur be exposed for interacting with tissue. Thus, unlike the relatively small windows 38, 62 illustrated in FIGS. 3B and 4B of Adams '263, the bur-receiving pocket of the pending application is fairly large. In fact, the relatively small cutting window associated with Adams '263 renders the design inappropriate for bur-type applications. Claims 10-14 set forth features of the pocket giving rise to the enlarged opening size. Based upon the differences between micro-resecting and micro-burring instruments, it is respectfully submitted that the limitations of claims 11 and 12 would not be obvious to one of skill upon reading Adams '263. Even further, it is respectfully noted that the Office Action fails to identify structures of Adams '263 commensurate with the features of claim 13. In fact, FIGS. 3B and 4B of Adams '263 make clear that the intermediate zone parallel with a central axis of the proximal portion (as set forth in claim 13) is not taught or reasonably suggested by Adams '263. For at least these reasons, it is respectfully submitted that claims 10-14 recite additionally allowable subject matter.

Additionally, reference is made to claim 15 in which a bottom surface of the formed pocket has at least one opening. As set forth in claim 1, the bottom surface is different from the claimed "opposed upper opening." In rejecting claim 15, the Office Action references element 38 of Adams '263 as being the "at least one opening" of claim 15. It is respectfully submitted that this interpretation is incorrect. Element 38 of Adams '263 is in reference to a cutting window. Apart from this cutting window, the outer tubular member does not form any openings. In other words, commensurate with claim 15, the window 38 cannot be both the "upper opening"

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and the “at least one opening fluidly connected to an irrigation source.” Thus, it is respectfully submitted that claim 15 recites additionally allowable subject matter.

Newly Presented Claims

Claim 30 depends from claim 1 and thus, for at least the above reasons, is allowable. In addition, claim 30 recites that the bur has a continuous circumferential surface. Support for this language is found, for example, at page 10, lines 3-8 and FIGS. 2, 5, 9B, and 10. As described above, Adams ‘263 provides the toothed cutting tip 150 that is not a bur, and thus does not teach or reasonably suggest a continuous circumferential surface. Thus, claim 30 recites additionally allowable subject matter.

Claim 31 depends from claim 1 and thus is allowable for at least the reasons above. In addition, claim 31 recites that the bur forms a plurality of cutting flutes. Support for this language is found, for example, at page 10, lines 5-6 and FIG. 5. The toothed cutting tip 150 of Adams ‘263 is not a bur and thus does not have a plurality of cutting flutes. Thus, claim 31 recites additionally allowable subject matter.

Claim 32 depends from claim 1 and thus is allowable for at least the above reasons. In addition, claim 32 recites that the bur has a shape selected from the group consisting of cylindrical, spherical, hemispherical, ellipsoidal, and pear. Support for this language is found, for example, at page 10, lines 6-8. As made clear in FIG. 2, the toothed cutting tip 150 of Adams ‘263 does not teach or reasonably suggest any of the shapes set forth in claim 32. Therefore, claim 32 recites additionally allowable subject matter.

Claim 33 depends from claim 1 and thus is allowable for at least the above reasons. In addition, claim 33 recites that a distal-most end of the pocket is below a central axis of the central lumen. Support for this language is found, for example, in FIGS. 3A and 4A whereby relative to the orientation of the figures, the distal-most end 90 is below the central lumen axis A. As a point of reference, this location of the distal-most end of the pocket provides for a fairly large opening through which the bur can intimately interact with tissue. In contrast, none of the windows provided in FIGS. 3B, 4B, 5B or 6B of Adams ‘263 provide for a large pocket opening,

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let alone a distal-most end below a central lumen axis. Therefore, it is respectfully submitted that claim 33 recites additionally allowable subject matter.

Claim 34 depends from claim 1 and thus is allowable for at least the above reasons. In addition, claim 34 recites that the bottom surfaces of the pocket forms a plurality of ports opposite the upper opening. Support for this language is found, for example, in FIGS. 3A and 4A. In contrast, while the windows associated with FIGS. 3B, 4B, 5B, and 6B of Adams '263 form an upper opening, a bottom surface of each of the "pockets" does not form a plurality of ports. Thus, it is respectfully submitted that claim 34 recites additionally allowable subject matter.

CONCLUSION

In view of the above, Applicant respectfully submits that pending claims 1-24 and 30-34 are in form for allowance and are not taught or suggested by the cited references. Therefore, reconsideration and withdrawal of the rejections and allowance of claims 1-24 and 30-34 are respectfully requested.

No fees are required under 37 C.F.R. 1.16(b)(c). However, if such fees are required, the Patent Office is hereby authorized to charge Deposit Account No. 50-0471.

The Examiner is invited to contact the Applicant's representative at the below-listed telephone numbers to facilitate prosecution of this application.

Any inquiry regarding this Amendment and Response should be directed to Timothy A. Czaja at Telephone No. (612) 573-2004, Facsimile No. (612) 573-2005. In addition, all correspondence should continue to be directed to the following address:

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